

Project		Catalog #		Type	
Prepared by		Notes		Date	



## Fail-Safe

### FCZ2 Sealed Cruze ST 1x4

1x4 Sealed Center Basket  
Sterile Environments / Behavioral Health  
Curved or Square Lens  
2,000 to 6,000 lumens

#### Typical Applications

Medical • Cleanroom • Behavior Health • Education • Laboratory • Pharmacy • Fitness Center • R&D Center

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#### Product Certification



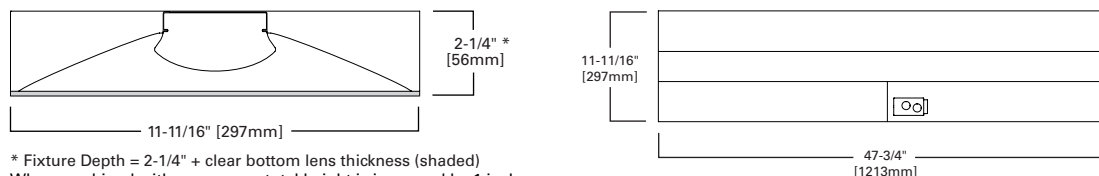
#### Product Features



### Top Product Features

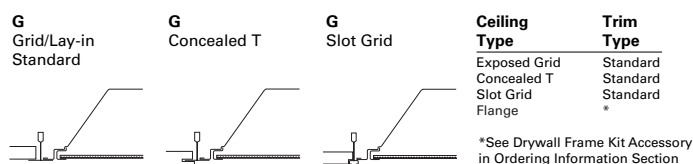
- Sealed center basket luminaire for use in high abuse, medical, wet location, and sterile applications
- Wet location standard, IP65 standard for dust and water ingress protection
- NSF listed for use in food services/food preparation environments
- Clear polycarbonate bottom lens for use in **behavioral health applications**
- ISO5-9 certified
- VividTune tunable white (3000K-5000K and 2700K-6500K) available in 80CRI or 90CRI
- Options to meet Buy American and other domestic preference requirements
- IK10 with Polycarbonate Lens

### Dimensional and Mounting Details (standard curved lens shown)

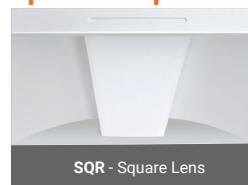


\* Fixture Depth = 2-1/4" + clear bottom lens thickness (shaded)  
When combined with emergency total height is increased by 1 inch.

### Ceiling Compatibility



### Optional Square Lens



## Order Information

SAMPLE ORDER NUMBER: **14FCZ2-48HE-UNV-L840-CP125-CD1**

Domestic Preferences	Series	Lumen Output	Shielding	Voltage	Options CRI/CCT
Domestic Preferences <sup>(8)</sup>	Series	Lumen Output	Shielding	Voltage <sup>(2)</sup>	CRI/CCT
<b>[Blank]</b> =Standard <b>BAA</b> =Buy American Act <b>TAA</b> =Trade Agreements Act	<b>14FCZ2</b> =12 inch width, 4 ft. length	<b>High Efficacy</b> <b>39HE</b> =3800 Lumens <sup>(7)</sup> <b>48HE</b> =4800 Lumens <sup>(7)</sup> <b>60HE</b> =6000 Lumens <sup>(7)</sup> <b>Standard Efficacy</b> <b>20</b> =2000 Lumens <b>25</b> =2500 Lumens <b>29</b> =2900 Lumens <b>35</b> =3500 Lumens <b>39</b> =3900 Lumens <b>44</b> =4400 Lumens	<b>[Blank]</b> =Ribbed Frosted Acrylic Curved Lens (standard) <b>S</b> =Smooth Frosted Acrylic Curved Lens <b>RDP</b> =Smooth Curved Lens with Round Pattern Insert <b>HRP</b> =Curved Lens with High-Efficiency Round Perf Inlay <b>SQR</b> =Square Lens	<b>UNV</b> =Universal Voltage 120-277 <b>347V</b> =347 Volt <sup>(5)</sup>	<b>L830</b> =80CRI, 3000K <b>L835</b> =80CRI, 3500K <b>L840</b> =80CRI, 4000K <b>L850</b> =80CRI, 5000K <b>L83050</b> =80CRI 3000K-5000K White Tuning <sup>(7)</sup> <b>L82765</b> =80CRI 2700K-6500K White Tuning <sup>(7)</sup> <b>L930</b> =90CRI, 3000K <b>L935</b> =90CRI, 3500K <b>L940</b> =90CRI, 4000K <b>L950</b> =90CRI, 5000K <b>L93050</b> =90CRI 3000K-5000K White Tuning <sup>(7)</sup> <b>L92765</b> =90CRI 2700K-6500K White Tuning <sup>(7)</sup>
<b>Notes</b>  (8) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="#">DOMESTIC PREFERENCES</a> website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.		<b>Notes</b>  (7) White tuning not available with this model.		<b>Notes</b>  (2) Products also available in non-US voltages and frequencies for international markets. (5) 347 versions 6000 lumens and below are available with emergency options, 5LTHD and step-dim options or sensors are not available.	<b>Notes</b>  (7) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Not compatible with other control or sensor options. Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Not compatible with other control or sensor options.

Flex	Bottom Lens	Driver Type	Number of Drivers
Flex	Bottom Lens	Driver Type	Number of Drivers
<b>[Blank]</b> =No Flex <b>A3/8-4/18GDIM</b> =3/8" Flex with 0-10V Dimming Leads <b>A3/8-2/18G</b> =3/8" Flex with line and common <b>A3/8-5/18GDIM</b> =Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	<b>CA08</b> =0.080" Clear Acrylic <b>CA125</b> =0.125" Clear Acrylic <b>CP125</b> =Clear Polycarbonate 0.125" <b>CP187</b> =Clear Polycarbonate 0.187" <b>CP250</b> =Clear Polycarbonate 0.250"	<b>CD</b> =0-10V Driver (10%-100% Dimming) <b>HCD</b> =0-10V Driver (1%-100% Dimming) <b>5LTD</b> =DALI Driver (5%-100% Dimming) <b>5LTHD</b> =DALI Driver (1%-100% Dimming) <b>SD</b> =Step Dimming Driver (50% or 100% Dimming) <b>LH</b> =Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming <sup>(6)</sup> <b>W2A</b> =White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control <sup>(6)</sup>	<b>1</b> =1 Driver <b>2</b> =2 Drivers
<b>Flexible Metal Conduit Options</b>  Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type.  <b>A3/8-4/18GDIM series notes:</b> Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).		<b>Notes</b>  (6) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Not compatible with other control or sensor options. Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Not compatible with other control or sensor options.  Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at <a href="#">www.lutron.com</a>	

Options	Emergency	Integrated Sensing Systems	Accessories
Options	Emergency	Integrated Sensing Systems	Accessories (order separately) <sup>(9)</sup>
<b>[Blank]</b> =No Element Fuse <b>GL</b> =Single Element Fuse <b>GM</b> =Double Element Fuse <b>AMW</b> =Anti-microbial, Powder Coat, Matte White Paint	<b>[Blank]</b> =No Emergency Pack <b>EL7W</b> =7-watt, 120V-277V emergency battery pack installed <sup>(3)</sup> <b>EL14W</b> =14-watt 120V-277V emergency battery pack installed <sup>(3)</sup> <b>GTR2</b> =Generator Transfer Relay <sup>(4)</sup> <b>ETRD</b> =Emergency Transfer Relay with dimming control <sup>(4)</sup>	<b>[Blank]</b> =No Sensor <b>LWTPD1</b> =Enlighted Wireless Tile-mount Sensor <sup>(8)</sup>	<b>[Blank]</b> =No Accessory <b>FCZ2-EQCLIP-U-PK</b> =Pack of four Fail-Safe Cruze grid security clips <sup>(1)</sup> <b>DFCL-1248W-U</b> =1' x 4' gasketed drywall framing <sup>(10)</sup> kit. Ships with gasket to be applied in field. Cutout Dimensions 12.25" x 48.25". <b>DFVR/FCZ-1248W-U</b> =1' x 4' secured tamper <sup>(10)</sup> resistant drywall kit. Cutout dimensions 12.25" x 48.25". <b>ISHH-01</b> =Programming Remote for Integrated Sensor <sup>(9)</sup> <b>ISHH-02</b> =Personal Control Remote for Integrated Sensor <sup>(9)</sup>
	<b>Notes</b>  (3) With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (4) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. Must specify voltage as 120V or 277V when ordering these devices. 347 not available.  Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories.	<b>Integrated Sensing and Control System Options</b>  <b>NOTES:</b> Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (B) Consult Enlighted system pages for additional details and compatibility.	<b>Notes</b>  (1) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (9) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (D) Consult SVPD series system pages for additional details and compatibility. (10) For Anti-microbial matte white finish, replace W with AMW. ex DFCL-1248AMW-U.

## Product Specifications

### Construction

- Formed steel housing with integral Grid-lock feature and optional grid security clips

### Integrated Controls

- Standard with 0-10V dimming. Optionally available with Lutron and Dali

### LED and Light Engine

- Available in 3000, 3500, 4000, and 5000K fixed color temperatures, or with VividTune white tuning technology
- Drivers available in 120-277V and 347V
- TM21 life at 60,000 hours up to L85 and L70 exceeds 132,000 hours

### Emergency Battery Options

- Optional 120-277V emergency battery available in 7W or 14W
- 90-minute backup period for code compliance
- Test switch with laser pointer and testing from floor feature for ease of use
- Generator transfer options available

### Finish

- High Gloss white finish standard

### Shielding

- Standard ribbed frosted acrylic curved diffuser
- Optional clear curved diffuser with perf or decorative pattern inserts
- Optional smooth acrylic frosted curved lens (S)
- Optional metal perforated acrylic curved lens (RDP)
- Optional High-Efficiency Curved Round Perf Inlay (HRP)
- Optional square frosted acrylic lens (SQR)

### Compliance

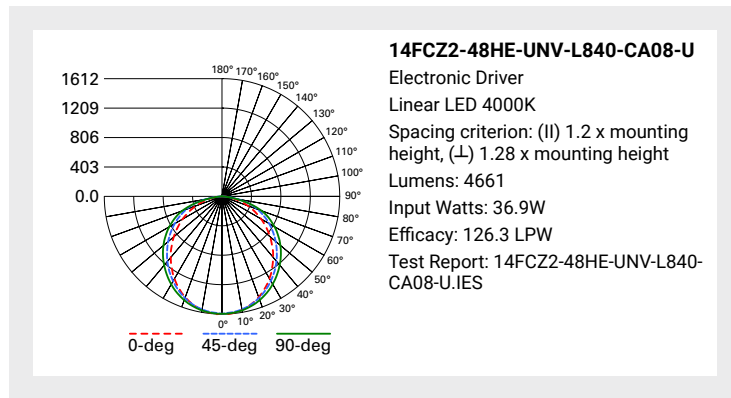
- IC rated, cULus Wet Location
- RoHS compliant
- ISO5-9 certified
- IP65
- IK10 - Polycarbonate Lens
- NSF rated; Splash, Non-Food Zone- Typical rating for lighting equipment not subjected to direct food contact. (e.g. ceiling mount luminaires). Examples of equipment subjected to direct food contact would be cutting boards, work-tables, mixers, can-openers, other)

### Warranty

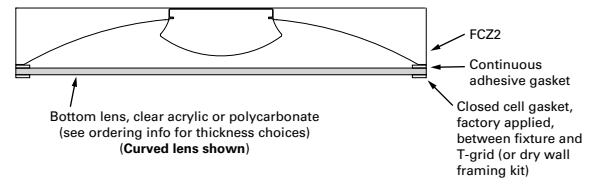
- Five year warranty standard

## Photometric Data

 [View IES files](#)



## Cross Section



## Energy and Performance Data Catalog Number

Catalog Number	Watts	CA08	LPW	CA125	LPW	CP125	LPW	CP187	LPW	CP250	LPW
14FCZ2-20-XXXX-UNV-35-CD1	16.3	1940	119	1933	119	1896	116	1816	111	1801	110
14FCZ2-25-XXXX-UNV-35-CD1	20.5	2390	117	2382	116	2336	114	2237	109	2219	108
14FCZ2-29-XXXX-UNV-35-CD1	24.3	2782	114	2772	114	2718	112	2603	107	2582	106
14FCZ2-35-XXXX-UNV-35-CD1	31.2	3426	110	3414	109	3347	107	3206	103	3179	102
14FCZ2-39-XXXX-UNV-35-CD1	32.3	3799	118	3786	117	3712	115	3555	110	3526	109
14FCZ2-44-XXXX-UNV-35-CD1	38.3	4360	114	4344	113	4260	111	4080	107	4046	106
14FCZ2-39HE-XXXX-UNV-35-CD1	29.3	3832	131	3818	130	3744	128	3586	122	3556	121
14FCZ2-48HE-XXXX-UNV-35-CD1	36.9	4661	126	4645	126	4554	123	4362	118	4326	117
14FCZ2-60HE-XXXX-UNV-35-CD1	48.3	5819	120	5798	120	5686	118	5445	113	5401	112

## Control Systems

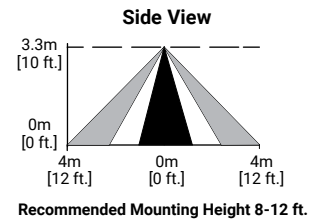
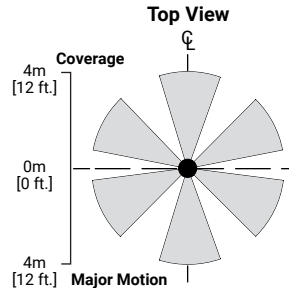
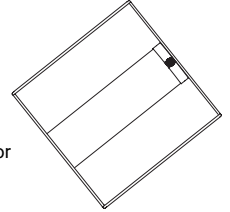
- WaveLinx
- DLVP
- Enlighted
- iLumin Plus
- VividTune

The FCZ2 with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The FCZ2 delivers superior lighting with integrated occupancy and daylighting controls.

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the FCZ2 delivers automatic ON to an energy saving light level, while ensuring lighting is turned OFF when the space is unoccupied.

The integral daylight sensor reduces the need for special daylight zone planning. Each luminaire will automatically adjust the light level based on reflected light beneath the sensor in a closed loop method.

The integral sensor can be offered in both standalone (SVPD1) and networked (SWPD1, LWIPD1, and SLVPD1) for application versatility.



Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended.

## Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.

	Distributed Low-Voltage Power System	WaveLinx	Enlighted
Space type	Interior	Interior/Outdoor	Any
Stand-alone or Network	Stand-alone	Both	Network
Need-based feature progression			
Basic compliance only	●	●	●
Occupancy sensing	●	●	●
Daylight harvesting	●	●	●
Zone control	●	●	●
Scheduling	●	●	●
0-10V dimming	●	●	●
Individual fixture control	●	●	●
Retrofit+Building Integration	●	●	●
Total wireless connectivity		●	●
A/V integration		●	●
BMS integration		●	●
UI options (touchscreen, apps, etc.)		●	●
Enterprise level building integration		●	●
Facility management & tools		●	●
Floor plan & reporting tools			●
Value-added services			●
Asset tracking			●
API integration		●	●
Analytics/higher problem solving			●

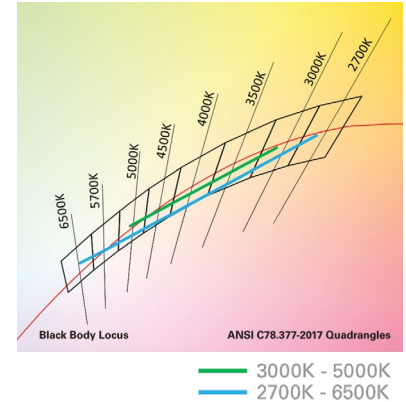


Connected Systems  
[CLICK HERE](#)



### 14 FCZ2 LED with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



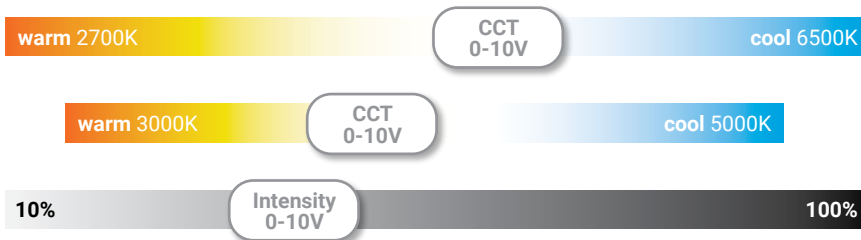
### Performance Data\*

Tunable White - Lumen Adjustment Factors				
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.903	0.771
3000K	0.929	0.765	0.928	0.801
3500K	0.983	0.836	0.961	0.842
4000K	1.033	0.903	0.981	0.868
4500K	1.042	0.918	0.999	0.891
5000K	1.042	0.918	1.013	0.909
6500K	-	-	1.028	0.933

1' x 4' FCZ LED - Example of Approximate Lumen Calculation			
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	14FCZ2-35-UNV-L835-CD1-U	14FCZ2-35-UNV-L83050-W2A1-U	14FCZ2-35-UNV-L93050-W2A1-U
3000K	-	3294	2712
3500K	3545	3486	2963
4000K	-	3660	3200
4500K	-	3695	3255
5000K	-	3695	3255

### Controlling VividTune Tunable White

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, go to [www.cooperlighting.com](http://www.cooperlighting.com) for tunable white application guides.



### Example of Lumen Adjustment Calculation

14FCZ2-35-UNV-L83050-W2A1-U at 80 CRI tuned to 3500K

Adjusted Lumen = published lm x adjusted lm factor

Adjusted Lumen = 3545 x 0.983

Adjusted Lumen = 3486 lm

\* Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.